

NAS NORTH ISLAND - NAVY REGION SOUTHWEST NAVY ENVIRONMENTAL LEADERSHIP PROGRAM

POLLUTION PREVENTION

VOC-FREE MICROBIAL PART CLEANERS

LEAD ACTIVITY

Naval Air Station (NAS) North Island

STATUS

Completed

MISSION

Demonstrate an effective aqueous-based, environmentally friendly cleaner for use as an alternative to PD-680 Stoddard solvent

DESCRIPTION

Commander Naval Air Force, U.S. Pacific Fleet (COMNAVAIRPAC) Support Equipment Rehab facility at NAS North Island is presently using a ChemFree Corporation SmartWasher," a state-of-the-art manual parts cleaner that is claimed to combine the safety of bioremediation with high performance cleaning standards. The SmartWasher uses a special filter pad to introduce microorganisms (called "Ozzy Juice") into the cleaning process. The microorganisms remain dormant until the filter pad is inserted into the proprietary nonhazardous parts cleaning solution. As the solution begins circulating within the washer, the nonpathogenic hydrocarbon-digesting "Ozzy Juice" break down and consume oil and grease particles.



SmartWasher Parts
Cleaner System

Because the SmartWasher is self-cleaning, there are no monthly service charges for expensive maintenance contracts. Typically, filter replacement after 30 days of normal use is the only required maintenance. The solution is topped off occasionally, as necessary, but does not require replacement.

The cleaning solution used in the SmartWasher is a biodegradable, nonflammable, noncorrosive, nontoxic oil dispersant and cleanser that contains no volatile organic compounds (VOCs), no known carcinogens, and no Occupational Safety and Health Agency (OSHA)- or Department of Transportation (DOT)-regulated chemicals. The San Diego County Air Pollution Control District has declared the cleaning solution as exempt from District rules and permit requirements, as packaged in the SmartWasher.

The SmartWasher itself is constructed of rugged high-impact, high-density polyethylene, and thus has no parts that can rust. The unit is equipped with an industrial heater that

maintains a constant temperature of 105 F, the optimal multiplying environment for the microorganisms.

The SmartWasher has replaced a parts cleaner that used Stoddard solvent (PD-680). Personnel in the shop consistently prefer to use the SmartWasher to wash parts. Unlike PD-680 or mineral spirits, the aqueous-based cleaning solution does not sting or burn and emits a pleasant odor.

A cost-benefit analysis conducted by NELP proved an annual cost savings of \$3,264 per year and a 340 lb/year reduction in VOC generation for each unit replaced. North Island is pursuing purchase of additional Smart Washers through the CNO Pollution Prevention Equipment Program (PPEP).

In addition to the "Smartwasher", NELP is currently evaluating Eco-System's "Natures Way" System, a similar parts cleaner system which also uses microbial enzymes to clean parts.

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